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(54) Title: SYSTEM AND METHOD FOR RADAR DETECTION OF AN OBJECT

(57) Abstract: There is provided a radar system for detection of one or more objects. The radar system comprises a radar wave transmitter for simultaneously transmitting a CW radar signal and a FM-CW or MF radar signal, and a first radar wave receiver for receiving CW and FM-CW or MF radar signals, reflected from one or more objects present in a detection range of the radar system. The system may further comprise a first CW mixer for mixing CW transmission signals and reflected CW signals received by the first receiver, and a first FM-CW or MF mixer for mixing FM-CW or MF transmission signals and corresponding reflected FM-CW or MF signals received by the first receiver. The first CW mixer may be a mixer for mixing CW transmission signals and reflected CW signals received by the first receiver to produce one or more first CW beat signals, each first CW beat signal relating to the velocity of an object, and the first FM-CW or MF mixer may be a first FM-CW mixer for mixing FM-CW transmission signals and reflected FM-CW signals received by the first receiver to produce one or more first FM-CW beat signals relating to the distance to and the velocity of an object. The radar wave transmitter may be adapted for simultaneously transmitting a CW radar signal and a FM-CW radar signal, wherein the FM-CW radar signal is a ramp modulated signal. The radar system may further comprise several radar wave receivers for receiving reflected CW and FM-CW or MF radar signals, which receivers may be arranged along first and/or second receiver directions. The radar system may have means for detecting phase differences between corresponding reflected radar signals received by different radar wave receivers. There is further provided a method of radar detection of one or more objects, where the method comprises simultaneously transmitting a CW radar signal and a FM-CW or MF radar signal, and receiving, via a first radar receiver, reflected CW and FM-CW or MF radar signals reflected from one or more object present in a detection range of the radar system.

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